

Notice of Allowability	Application No.	Applicant(s)	
	10/728,733	ROHRBAUGH ET AL.	
	Examiner	Art Unit	
	William H. Rodriguez	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. ☒ This communication is responsive to the amendment filed on 4/27/07.
- 2. ☒ The allowed claim(s) is/are 1,3-18,20-25,27-35,40,42,43 and 45-55.
- 3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 - 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- 6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

This office action is in response to the amendment and remarks filed 4/27/2007.

Allowable Subject Matter

1. Claims 1, 3-18, 20-25, 27-35, 40, 42, 43, 45-55 are allowed.

With respect to claim 1, the following is an examiner's statement of reasons for allowance: the prior art of record neither discloses nor makes obvious the combination set forth in the independent claims, and especially does not show "wherein the at least one axial thrust valve and the at least one maneuver control valve are operable in combination for simultaneous opening to rapidly reduce pressure within the pressure vessel to a degree sufficient to substantially extinguish combustion of the at least one solid propellant grain", in combination with the other claim limitations.

With respect to claim 25, the following is an examiner's statement of reasons for allowance: the prior art of record neither discloses nor makes obvious the combination set forth in the independent claims, and especially does not show "wherein the plurality of valves comprises at least one valve in communication with a thruster for providing axial thrust and at least two valves in respective communication with thrusters for providing thrust for maneuvering and opening the plurality of valves to rapidly reduce pressure within the pressure vessel to a degree sufficient to substantially extinguish combustion of the solid propellant", in combination with the other claim limitations.

With respect to claim 29, the following is an examiner's statement of reasons for allowance: the prior art of record neither discloses nor makes obvious the combination set forth in the independent claims, and especially does not show "wherein the at least one valve and the valves of the plurality are operable to open fully in combination to cause rapid depressurization of the

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interior of the pressure vessel to substantially extinguish combustion of the at least one solid propellant charge”, in combination with the other claim limitations.

With respect to claim 40, the following is an examiner's statement of reasons for allowance: the prior art of record neither discloses nor makes obvious the combination set forth in the independent claims, and especially does not show “at least another solid pulse grain disposed within the pressure vessel, separated from the first pulse grain by a flame-inhibiting barrier and having at least one pulse igniter associated therewith”, in combination with the other claim limitations.

With respect to claim 42, the following is an examiner's statement of reasons for allowance: the prior art of record neither discloses nor makes obvious the combination set forth in the independent claims, and especially does not show “wherein the axial thrust valve and the plurality of maneuver control valves are configured to effect a rapid depressurization of the pressure vessel during combustion of the solid propellant charge to substantially extinguish combustion thereof when the axial thrust valve and the plurality of maneuver control valves are fully open”, in combination with the other claim limitations.

With respect to claim 50, the following is an examiner's statement of reasons for allowance: the prior art of record neither discloses nor makes obvious the combination set forth in the independent claims, and especially does not show “at least one maneuver control valve in communication with the pressure vessel and configured for selectively releasing gases generated by combustion of the propellant within the pressure vessel to provide thrust for maneuvering, wherein the pressure vessel, the at least one axial thrust valve, and the at least one maneuver control valve are disposed within a common housing”, in combination with the other claim limitations.

With respect to claim 51, the following is an examiner's statement of reasons for allowance: the prior art of record neither discloses nor makes obvious the combination set forth

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in the independent claims, and especially does not show "a plurality of selectively operable maneuver control valves for release of the combustion gases from the pressure vessel, wherein the axial thrust valve is configured for modulation of a flow area therethrough to compensate for temperature effects to provide substantially constant axial thrust", in combination with the other claim limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodríguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William H. Rodríguez 5/2/07
Primary Examiner
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